goes on in all organs and structures. It is a fact, however, of importance to reflect, as pertains to this particular question, that not unfrequently the heart sustains a loss of contractile power when there has not been time for those pathological changes in its elementary structures, such as are seen when softening is induced from more acknowledged and manifest causes. Again, putrescence after death in all fevers is often rapid. The enfeeblement of this organ, its diminished or even abolished impulse, the altered or absent first sound, and alteration in the blood-wave in the systemic arteries, are doubtless very mainly to be accounted for by the impress which the fever-poison makes upon the cerebro-spinal axis, on the great splanchnic nerves, and on the cardiac plexus in especial.

The reader need hardly be reminded here of the well-nigh general acceptance of the views of Virchow, that fever has its immediate cause in alterations of the nervous system, and that there is primarily more or less of a paralysed condition of the sympathetic and the vagus. This perversion and arrestment of function in the system is somewhat analogous to that depressed state produced by opium and other narcotics. To then stimulate is to carry on life for a time artificially. I remember how Dr. Alison was in the habit of remarking that wine is doing good when the tongue becomes more moist and cleaner, when the pulse declines in frequency, when the breathing is rendered slower, and when the patient is less restless. If the tongue remain parched or dry, if the pulse be accelerated, the skin hotter, the respiration more hurried, and the patient evince augmented restlessness and discomfort, the wine or brandy should be diminished. When there is much tremor and subsultus, stimulants are needed, as they were in the instances of the young gentleman's case, No. 4, in whom as, I have observed, jactitation was pronounced in remarkable degree. In young people, as the rule, far less wine is required, and in some of these it may not be required at all. In the old and intemperate, wine is indicated in greater quantity. Coldness of the extremities, cool, moist, and relaxed skin, and suddenly slow pulse, demand immediate and often large doses of wine and brandy. It has been my own plan to order a certain number of drachms of wine or brandy to be given every two hours, or, in advanced and perilous cases, every hour. They should always be administered in diluted form. Sometimes one or other may be taken in milk or beef-tea. This is better than giving them in larger quantities and at longer intervals. When the prostration is in grave and alarming degree, ammonia, ether, camphor, and musk are amongst the best diffusible stimulants. As respects diet, care should be taken not to oppress the stomach, and urge on the patient more that can be digested. The assimilative process becomes impaired relatively with the declension of strength and the advance of the disease towards the crisis. It should be held in mind that glandular secretions are given off in diminished quantity and in altered quality. The salivary, gastric, and pancreatic fluids become thus affected. From such considerations, too much farinaceous food should not be allowed. There is the most dependence to be placed on good beef-tea, and I have long been in the habit of recommending it to be thickened with corn-flour, tapioca, vermicelli, or arrowroot. Strong chicken-broth, veal-and-ham broth, and meat jellies, may from time to time be substituted as a change, and more especially during convalescence. During the days of more urgent symptoms, strong beef-tea should mainly be depended upon. Good milk with a small quantity of lime-water is most valuable. Having known perforation to be caused by a too early return to a solid diet, I have for a long time requested during convalescence strict rules as to the food. For three or four weeks, it is safer for the patient to eat light and digestible articles of diet. Another evil is to be guarded against. Remedies, wine, and food should not be so constantly given as to interfere with sleep. Sleep itself is a restorative: and it is a great mistake to be constantly giving something to break in upon sleep and rest. When recovery has fully set in, the stimulants may with advantage be changed. The patient has then mostly become tired of port wine. Sherry, Burgundy, and Madeira may be substituted. It is well to be cautious as to malt liquors, as I have known their too early use to have a tendency to reinstitute irritation in the bowels. Fresh air and change of scene add not a little in the restoration to health.

There is not a little satisfaction in the reflection that the greater attention which is now being given, not only on the part of the profession, but on the part of the legislature, and on the part of the public generally, to all matters pertaining to sanitary improvements, and that consequently the death-waste from enteric fever will soon become manifestly diminished. The medical attendant will become more and more appealed to, and his opinion will have increasing influence in all matters that have reference to the general health. It is very desirable that, in all instances of enteric fever, whether coming on endemically or when only occurring sporadically, the greatest attention should be di-

rected by practitioners to the investigation of the cause. Examination into the surrounding conditions, and the ascertainment of circumstances as to whether it may or may not have been imported (as it is certainly contagious, though in limited degree) will in most instances solve the question; and more, with such vigilance at once bestowed, the spread of the affection can often be greatly curtailed. It would seem to be undeniable that, in all towns where new drainage-works have been fully and efficiently carried out, there is one danger of which the very perfection of such public necessities has proved a cause. The gases, by having none of these outlets which they had when the old drains were bad and loosely made, or when there were open drains, become constrained and concentrated in their new channels; hence there is greater pressure on the traps of the houses by their being forced up the private drains. I have known some apt illustrations of this fact. Great numbers of the occupants of houses would be glad to render themselves safe from this danger, if they knew how such could be accomplished; but unfortunately there has been, on the part of the public, little heed given and much ignorance relative to these matters. The suggestions of the medical advisers would, if the facts of such cases were clearly pointed out, in the great majority of cases be complied with. A few of the rules for observance would be to insist on the importance of the waste-pipe of cisterns being carried, not into the drains, but into the open air; that the soil-pipes of the closets should be tapped; that the main drain, after it leaves the house, should be ventilated by a four-inch pipe being carried above the roof, and as remote as possible from any upper windows, and that the efficiency of the traps should be from time to time ascertained.

I believe there has been more confidence in syphon-pipes than has been warrantable. I am satisfied, from some investigation relative to this particular point, that gases not unfrequently pass through the water of such syphons and give rise to disaster. During certain winds when the external air rushes up the drain, the noxious gases are often driven through the syphon; for it must be remembered that, through the lighter specific gravity of such gases, their pressure is made on a thin stratum at the uppermost part of the water in the bend of the syphon, and then the polluted air bubbles through. This I have ascertained to be the fact. The only safety lies in a ventilating shaft. Cesspools ought always to be tapped. An architect not long ago told me that there is frequently a great omission in the examination of a house, by the overlooking of the large leaden pipe which immediately leaves the pan of the closet. These pipes, this gentleman said, are apt to become corroded and perforated, whereby a main-drain may ventilate into a house. Another fertile cause of fever throughout the country is to be found in shallow wells frequently made in proximity with tenements and cottages. They often receive surface-water, and become contaminated by percolation from adjacent drains. In all towns where there is a public water-supply, there should be a compulsory service. Good drainage and pure water have told most favourably on Tunbridge Wells. Within the last few years, the huge sum of more than £200,000 has been expended in effecting these two invaluable requisites. Enteric fever has here become comparatively rare; and, when isolated cases have occurred, they could in nearly all instances be traced to some fault in house arrangement or the negligence of individuals. And it may be said that there is now no town in the kingdom better drained, nor one which has a supply of purer water.

QUARANTINE FOR PUERPERAL FEVER.

By J. BRAXTON HICKS, M.D., F.R.S.,

Obstetric Physician to Guy's Hospital.

IN the JOURNAL of March 25th appears an article from Dr. Napier of Frazerburgh on the "Duration of Quarantine required after Puerperal Fever", in which he alludes to my letter on the same subject in the JOURNAL a few weeks since. I should not have written now, had he not assumed that I held certain opinions. He says: "The disease is inferred to be always contagious, Dr. Hicks evidently ignoring the idea of epidemic puerperal fever as a reality." If Dr. Napier will read all I have written, he will find no such statement directly or indirectly. With regard to my inferring that the disease is always contagious, I think, for all practical purposes, it must be treated as such till we can say whether any given case be so or not. If Dr. Napier be able, upon the early days of a case, to pronounce one way or the other, I am sure he will be rendering great service to the profession by showing the distinction. Till then, whether we believe that puerperal fever can originate epidemically or not, I submit that the most safe way will be to treat all cases as possibly contagious.

I may add that, although we cannot find any extraneous origin for a

case of puerperal fever, we are not forced to assume it to be self-generated or epidemic. If Dr. Napier will read over again the first paragraph of his letter, he will see that he holds as strong an opinion as those whom he condemns as systematising or theorising. But in these latter I do not include myself; for what opinions I hold have been rightly or wrongly based upon a very large number of cases very carefully inquired into by myself. But I admit that no single person, however large his opportunities, can work out the whole subject. Carefully ascertained facts must be recorded, and each group of cases carefully watched in different parts of the world, and in every variation of condition. By these means, we shall arrive probably at a more satisfactory state of knowledge than at present exists. At present, I think we have arrived at this stage; viz., that there are many factors in the disease, all tending to the disturbance of the blood in the highly susceptible puerperal condition; each separately, or two or three combinedly, may bring about such a deterioration of the system, as is evidenced by the symptoms which we have hitherto called puerperal fever.

TORQUAY CLIMATE AND WESTERN HOSPITAL STATISTICS.

By H. STRANGWAYS HOUNSELL, M.D., M.R.C.P.Lond.,
Physician to the Western Hospital for Consumption, etc.

It is difficult to believe that the medical profession generally would be influenced to decide against a sanatorium so long and well known and appreciated as Torquay has been, on the slender data of the few statistics given by Dr. Theodore Williams in his very interesting Lettsomian lectures recently delivered at the College of Physicians; but the sanction of his well-known name in connection with chest-disease, has already induced the local press of various rivals to take advantage of this opportunity to injure her fair fame, and it hardly behoves us, who so thoroughly know and believe in her, not to say a few words in endeavouring to show the error of the reasoning.

Statistics, we all know, are often prone to mislead, especially relative statistics; at all events, to be of any value, they must be more extensive than those produced by Dr. T. Williams. Again, cases of phthisis are so different in character, and so likely to end differently, that the probability of equality of chance in a given number of cases is very slight; and the result given by Dr. T. Williams is so different from what we are accustomed to get, and from the accompanying hospital statistics, that I feel sure that, with every wish to be fair and just, he must have sent unfortunate cases to Torquay.

Dr. Williams allows so much in favour of this place, viz., its higher temperature in winter, its equability, its sheltered situation, its good superficial drainage and water-supply, and house-accommodation, not to lead to the conclusion, to those who consider the matter in a common sense point of view, that his conclusions are premature and may be open to error.

The better result obtained by him at a sanatorium with lower temperature and more blowy and exposed to east wind (not modified as it is with us by passing over sea-water down channel) is so extraordinary that it cannot be passed unnoticed. It is a generally held opinion, borne out by experience, that chest-disease is in excess in proportion to the amount of exposure to high wind, no matter what the aspect may be; Mr. Haviland, in his paper on the Distribution of Disease in England, lays this down as a rule, and I think few would dispute it. Now, as the large proportion of cases of phthisis are secondary to inflammatory attacks, it is reasonable to believe that place most suited to their arrest is where they can get regular out-of-door exercise in an equable climate with shelter or immunity from wind. Our greatest enemy is wind in the majority of cases, which, by keeping up bronchial irritation and producing pneumonic attacks, accelerates the disease. In corroboration of this, the county which sends the largest number of phthisical cases into Devonshire to be treated at our Hospital for Consumption, is Wiltshire, proverbially high and blowy.

Torquay may not be so attractive in winter as the South of France, but it is eminently a *safe* climate; the fact that it has an amount of cloudy dull weather in winter is its safeguard. The hot sun and clear air of the Mediterranean shore may be very exciting and invigorating to a certain set of cases, but must be very deceitful and dangerous to the majority—the heat going away after sundown into space rapidly lowers the temperature, so that the range from mid-day heat to the coldness of night is prejudicial; whereas, from the ceiling of cloud the heat does not with us escape, but is sent back to keep our temperature equable; hence the comparative exemption of our patients from inflammatory attacks. This, and the pernicious winds which are

constantly blowing along the Mediterranean shores, make the climate there treacherous and unsafe. It is quite new to me to find that there is unusual inability to take cod-liver oil in this climate. On the contrary, it is *exceptional* that it should not be borne, if taken with due precautions, nor is diarrhoea more than ordinarily present. At this time, there are twenty-three males and twenty-four females in the Western Hospital; of these, eight only do not take the oil, and these merely because it is not ordered for them, and because they have indications for steel or other treatment. One only has refused it after taking it regularly for two months; two men and three women only have suffered from diarrhoea—surely not an alarming percentage. These facts speak for themselves. I can show, and I believe my brother physicians can do the same, in the course of a morning round, a number of cases of arrest of serious disease which have remained *in statu quo* for many years, and I feel perfectly satisfied with the results I have obtained during my long residence here as compared with what I hear of in other places; but, rather than give the results of my private practice, I prefer to call attention to the cases treated for a long period in the Western Hospital for Consumption, and confidently leave the conclusions to the profession.

I must, however, remark, that a number of patients were discharged as well which I have included in the much improved group; that the generality of the patients resided the whole winter with us; and that the matron is constantly in correspondence with people formerly inmates of the Institution, who continue well and earning a livelihood; and that we repeatedly get amongst the patients some who have been formerly inmates, and whose disease has been checked for years.

I have now under my care a man who, fifteen years ago, spent a winter at the hospital; since then, he has resided in Torquay and earned a living as out-of-door servant, and latterly as coachman. A patch of crepitation produced by a recent severe attack of hæmoptysis, for which he was admitted, is gradually passing away, and he will, on the closing of the season, resume his occupation.

During the years from 1860 to 1875 inclusive, 1,010 cases have been admitted, with the following result, viz.—

	Males.	Females.
Much improved	225	209
Improved	118	131
Unaltered	81	43
Worse	98	76
Dead	20	9
	542	468

During thirteen years, a record has been kept of gain or loss in weight. The following is the result—

	Males.	Females.
Gained in weight from 1 to 32 lbs. ...	290	260
Unaltered	62	46
Lost weight	87	73
	439	379

Now, these cases were not selected cases; indeed, many of the deaths occurred from the advanced state of the disease, the patients only surviving their arrival a short time; they were ordinary hospital cases sent us from a distance, yet the percentage of much improved is nearly double those mentioned in Dr. T. Williams's tables, for, while he gives 35 per cent. improved, and 41 per cent. worse, the 1,010 cases at the Western Hospital give 68 per cent. of improved, and only 20 per cent. worse.

REMARKS ON THE CLIMATE OF MADEIRA.

By GEORGE LUND, M.D., F.R.C.P.

I HAVE read in the BRITISH MEDICAL JOURNAL some remarks by Dr. Theodore Williams on Madeira, which island I left thirteen years ago, and then ceased my professional work.

In a quotation, Madeira is described as "a warm moist atmosphere, singularly soothing to coughs, the air being so damp that boots mould, lucifer matches cease to inflame, and steel rusts". This last is not unusual at the sea-side, but is not common in and around Funchal. A more incorrect description of the climate could not have been given, and only can be explained by presuming that the writer is personally unacquainted with Madeira and its climate. Had he read Mr. Bloxam's pamphlet on Madeira, such an erroneous description would have been avoided. No resident on the island will accept such a description as a fact—I certainly do not. However, inquiry on the island could easily be made and the truth ascertained.